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Violence victimization and negative health correlates of youth in post-earthquake Haiti: Findings from the cross-sectional violence against children survey

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Abstract

Background: We examined the prevalence of and relationships between violence victimization and negative health correlates of Haitian youth exposed to the 2010 earthquake.

Methods: Participants were randomly selected 13–24 year-old youth (1457 females; 1459 males) living in Haiti following the 2010 earthquake. Data collected via Haiti's 2012 Violence against Children Survey (VACS) were analyzed.

Results: Participants reported violence victimization in the past 12 months (females: 49.93%; males: 41.68%), moderate-to-severe mental distress (females: 76.56%; males: 66.41%), and suicidal ideation (females: 26.79%; males: 8.05%). Compared to participants without experiences of violence, victims of violence had significantly higher mean number of sexual partners (females: 1.99, 95% CI: 1.81–2.16, $p = .02$; males: 4.33, 95% CI: 3.50–5.16, $p = .03$), mental distress (females: 80.39%, $p = .01$; males: 72.95%, $p = .002$), and suicidal ideation (females: 36.09%, $p < .0001$; males: 12.02%, $p < .0001$). Male victims of violence were more likely to have sex without a condom (26.02%, $p = .01$) and female victims of violence were more likely to report histories of STIs (28.04%, $p = .01$), when compared to participants without history of violence.

Limitations: Data were collected via self-report. Disaster exposure experiences were not assessed. Analysis was correlational and did not control for potential confounding variables.

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Contributors

Greta Massetti and Elizabeth Swedo contributed to the larger VACS data collection. All authors contributed to study design for this paper. Melissa Osborne conducted the analyses and wrote the results, which were reviewed in depth by all authors. All authors contributed ideas to the Introduction and Discussion. Betty Lai co-wrote the Introduction and Discussion with Melissa Osborne, Natasha De Veauuse Brown, and Elizabeth Swedo. Natasha De Veauuse Brown wrote the Methods section.

Declaration of Competing Interest

There are no conflicts of interest to disclose.

Conclusions: Disaster-exposed youth endorsed high levels of violence victimization and negative health correlates. Earthquake survivors who experienced violence were more likely to report negative health correlates. Greater attention to downstream sequelae of natural disasters is needed.

Keywords

Disaster; Violence; Children; Youth; Earthquake; Displacement

1. Introduction

Violence against children is a global public health problem, with an estimated 1 billion children having experienced violence in the past year. Additional trauma such as natural disasters may make children even more vulnerable to violence (Hillis et al., 2016). For most disasters, more than half of those affected are youth (Save the Children, 2011). Youth, or those under 24 years of age, are a vulnerable population when exposed to disasters; considerable research has documented the association of disaster exposure with youth mental health problems (Hirth et al., 2013; La Greca et al., 2013; Lai et al., 2015; Weems et al., 2010).

However, studies examining rates of violence victimization against youth following disasters are needed to guide post-disaster response efforts. Interpersonal violence often occurs when the perpetrator feels powerless (Curtis et al., 2000), and disasters are associated with numerous stressors that may engender feelings of powerlessness in adults. Those stressors include displacement, resource disruption, and job loss (Lai et al., 2015; Self-Brown et al., 2013; Weems et al., 2010). Disasters are associated with increased levels of violence against adults, especially violence against women (Fisher, 2010; Gearhart et al., 2018; Nguyen, 2019). Emerging evidence indicates that disasters are associated with violence against youth. Curtis et al. (2000) examined incidence of child abuse reports 1 year before and after Hurricane Hugo, the Loma Prieta Earthquake, and Hurricane Andrew. Child abuse reports were disproportionately higher three and six months after Hurricane Hugo and the Loma Prieta earthquakes, when compared with pre-disaster rates. Keenan et al. (2004) reported increased incidence of inflicted traumatic brain injury, a common form of child abuse in the first year of life, among counties affected by Hurricane Floyd, when compared to less affected or unaffected counties.

Further research examining negative health correlates of youth after disasters is also needed to guide intervention efforts (Self-Brown et al., 2017). Violence exposure may confer additional risk for negative health correlates for youth exposed to disasters. Those who have experienced trauma generally report higher levels of negative health outcomes (Bosch et al., 2017; Crouch et al., 2017; Lai et al., 2014).

To address these issues, this paper examined a sample of Haitian youth exposed to the 2010 earthquake in Haiti, a 7.0 magnitude earthquake that struck on January 12, 2010 (U.S. Geological Survey, 2010). The earthquake resulted in 200,000 deaths and left approximately 2.3 million people homeless (Amnesty International, 2014). This study examined the following research questions: 1) How prevalent are violence victimization and negative

health correlates (mental and physical) among youth exposed to disaster?, and 2) Among youth exposed to a disaster, do victimized youth report higher rates of negative health correlates than those who were not victimized? We expected that youth who experienced violence would report higher rates of negative health correlates than youth who were not victims of violence.

2. Methods

2.1. Participants

The Haiti Violence against Children Survey (VACS) was a nationally representative, cross-sectional household survey conducted from April to June 2012, roughly 1.5 years after the Haiti earthquake. This study assessed data from the 1457 female and 1459 male youth ages 13–24 years who completed the Haiti VACS, representing overall response rates of 85.6% and 82.0%, respectively. Of those, 405 females (27.80%) and 376 males (25.77%) had been displaced after the 2010 earthquake. Over half of female respondents were ages 18–24 years (n = 821, 56.35%); 43.65% (n = 636) were ages 13–17 years. Approximately half of male respondents were ages 18–24 years (n = 701, 48.05%); 51.95% (n = 758) were ages 13–17 years.

2.2. Study design and procedures

Scientists from the Haitian Interuniversity Institute for Research and Development (INURED) and Centers for Disease Control and Prevention (CDC) employed a stratified, three-stage, cluster sampling design for the Haiti VACS. Of note, the Haiti VACS is one example of nationally representative VACS surveys (https://www.cdc.gov/violenceprevention/childabuseandneglect/vacs/index.html). The Haiti VACS was developed to provide population-based estimates to guide a national action plan for preventing and responding to physical, sexual, and emotional violence against children (Centers for Disease Control and Prevention, 2014). The survey was adapted to the local cultural context of Haiti through a collaborative partnership between the Government of Haiti, Haitian INURED, CDC, United Nations Children's Fund, President's Emergency Plan for AIDS Relief, and Together for Girls (Centers for Disease Control and Prevention, 2014).

Participants were randomly selected from the most updated sampling frame available and accounted for large-scale population displacement following the 2010 Haitian earthquake (Centers for Disease Control and Prevention, 2014). The sample was stratified into internally displaced person camps and non-camp standard enumeration areas. Further details on the sampling strategies used are available in other publications (Centers for Disease Control and Prevention, 2014; Gilbert et al., 2018; Sumner et al., 2015).

VACS was a paper and pencil survey completed in Haitian Kreyol (native language) via face-to-face interview. It covered a wide array of topics (e.g., socioeconomic status, domestic servitude, sexual behaviors). Survey participation was voluntary. All participants provided informed oral consent or assent. Ethical boards at the Ministry of Public Health and Population's National Ethics Committee in Haiti and Institutional Review Boards at the

Haitian INURED and CDC reviewed and approved the study protocol (eClearance protocol #6226).

3. Measures

Change of household.

Displacement was determined by asking respondents, “Did you move households or change where you lived as a result of the earthquake?” (yes, no, or don’t know/declined to answer). Participants were also asked to select one of eight main reasons why they changed households after the earthquake (e.g., “my house was destroyed,” “my previous home became unsafe”).

Sociodemographic characteristics.

Dichotomous variables were used to examine participants’ sociodemographic characteristics. The school completion question asked, “Have you completed primary school?” To assess their household material security, respondents were asked, “[Before you were 18] did you think your household has had enough money for a) food and b) clothing, school fees, or medical care?”

Violence victimization.

Respondents were asked questions about physical, emotional, and sexual violence that occurred in the last 12 months. For this study, a dichotomous variable was created for each type of violence (i.e., physical, emotional, sexual) to indicate if the participant experienced each type of violence in the last 12 months. Those who indicated “don’t know” or “declined” on all items within each violence measure were coded as missing data since there was no way to determine if these individuals had not experienced violence or simply declined to respond to the question.

Physical violence.

Two composite variables were created to determine if participants experienced any physical violence. The parent or adult caregiver physical violence variable assessed whether a parent, caregiver, adult relative, or another adult household member had ever done any of the following: punch, kick, whip, or beat them with an object; choke, smother or try to drown them; burn or scald them intentionally, including putting hot pepper in their mouth or on another body part; used or threatened to use a weapon against them. The authority figure physical violence variable was based on whether or not “public authority figures who you should be able to trust, such as teachers, police, other security personnel, religious leaders, or community leaders” had perpetrated any of the aforementioned violence noted in the parent or adult caregiver questions.

Emotional abuse.

Questions asked participants if a parent, caregiver, any adult relative, or another adult household member said any of the following to them: “you were not loved or did not deserve

to be loved; they wished you had never been born or were dead; ridiculed you or put you down; or, threatened to abandon you or threatened that they would force you to leave home."

Sexual violence.

The composite variable to assess sexual violence was created using four questions. Respondents were asked about unwanted sexual touching ("touched you in a sexual way without your permission"), attempted sex ("tried to make you have sex without your permission but did not succeed"), pressured sex (e.g., "pressured you in a non-physical way by doing things like telling you lies…"), and physically forced sex by any perpetrator.

In addition to the physical, emotional, and sexual violence variables, a dichotomous variable was created to indicate if the respondent had experienced any of these types of violence in the last 12 months.

Negative health correlates. Risky health behaviors included excessive alcohol use, smoking cigarettes, condom use, multiple sexual partners, and history of sexually transmitted infections (STIs). Regarding excessive alcohol use, respondents were asked, "In the past 30 days, how many days did you drink alcohol to the point that you became drunk?" A dichotomous variable was created to indicate having been drunk at least once. For smoking cigarettes, participants were asked, "In the past 30 days, did you smoke cigarettes daily, occasionally, or not at all?" This variable was recoded to indicate either no cigarette use at all or daily or occasional use. Regarding condom use, participants were coded as either never having used a condom during sex in the last 12 months or as having always or sometimes used a condom in the last 12 months. Those who had not had sex in the last 12 months or ever were coded as missing for this variable. The number of sexual partners was captured as a continuous variable. Participants were asked the number of sexual partners (consensual or forced) in their lifetime. The lifetime presence of an STI was assessed by asking participants if they ever had an STI, and a variable was created to indicate either yes or no.

Other negative health correlates included suicidal ideation and mental health distress. Lifetime history of suicidal ideation was assessed as a dichotomous variable using a single question asking participants if they ever had thoughts of ending their own life. Mental health distress was measured with the Kessler Psychological Distress Scale was used to measure mental distress (Kessler et al., 2003). Participants were asked, "During the past 30 days, about how often did you feel the following ways all the time, most of the time, some of the time, a little of the time, or none of the time: nervous, hopeless, restless or fidgety, so depressed that nothing could cheer you up, that everything was an effort, worthless." A Kessler score of five or higher indicated moderate or severe mental distress. A binary variable was created to indicate either no mental distress or moderate or severe mental distress.

3.1. Statistical analysis

All analyses were performed using SAS Systems for Windows (version 9.4). Given the complex survey design of VACS, clustering, stratification, and sample weights were accounted for in the statistical analysis to obtain proper estimates, percentages, 95%

confidence intervals, and *p* values. Differences in health outcomes were assessed by violence victimization status (i.e., no victimization or any victimization). Rao-Scott chi-square tests were used to assess group differences, and risk differences were calculated in SAS. For the variable reflecting the number of sexual partners, a *t*-test was used to examine group differences, and mean differences were reported.

4. Results

4.1. Descriptive statistics

Of the 1457 females and 1459 males included in our analyses, 781 reported being displaced after the 2010 earthquake in Haiti; 405 of these displaced youth were female, and 376 were male (Note: data in this section are not shown in a table). For both genders, the two primary reasons given for displacement were their house was destroyed (females: 57.79%, [95% CI: 50.20, 65.38]; males: 48.19% [95% CI: 40.18, 56.19]) or their previous home became unsafe (females: 25.69% [95% CI: 20.02, 31.35] and males: 35.89% [95% CI: 27.84, 43.94]). Other reasons for displacement (i.e., death of a family member, moved to find better services, looking for employment, moved in to work with a family, or other reason) made up 16.52% (95% CI: 10.45, 22.60) of responses for females and 15.92% (95% CI: 10.20, 21.64) of responses for males.

4.2. Characteristics of displaced youth

Overall, there were no statistically significant differences between displaced and non-displaced participants in terms of having enough money for food, clothes, school fees, or medical expenses. However, a higher percentage of displaced males (70.79%) reported completing primary school than non-displaced males (58.20%, χ^2: 11.13[1], $p < .001$). Displaced and non-displaced females did not differ with regard to completing primary school (Note: data not shown in a table).

4.3. Prevalence of past-year violence victimization and negative health correlates

Among females, half (49.93%; 95% CI: 45.54, 54.31) reported at least one type of violence victimization (Table 1). More females reported emotional abuse (27.80%; 95% CI: 25.02, 30.57) than other types of violence. Physical abuse by a public authority figure was reported by the least number of females (10.20%; 95% CI: 7.54, 12.87). Less than half of males (41.68%; 95% CI: 37.53, 45.82) reported at least one type of violence victimization. Similar to females, more males reported emotional abuse (17.01%; 95% CI: 14.42, 19.60) than other types of violence. Physical violence by a public authority figure was reported by the least number of males (10.90%; 95% CI: 8.10, 13.71). Mental health distress was ubiquitous among earthquake-exposed youth with 76.56% (95% CI: 72.78, 80.34) of females and 66.41% (95% CI: 61.80, 71.01) of males reporting moderate or severe mental distress. Additionally, over one-fourth of females (26.79%; 95% CI: 23.16, 30.42) and approximately 8.05% of males (95% CI: 6.18, 9.91) reported suicidal thoughts.

4.4. Associations between past-year violence and negative health correlates

For both females and males, there were statistically significant differences in the number of sex partners comparing those who experienced violence victimization in the last 12 months

and those who did not (Table 2). Male victims had an average of 4.33 sex partners (95% CI: 3.50, 5.16), compared to 3.40 (95% CI: 3.06, 3.74) for male non-victims. Female victims had 1.99 sex partners (95% CI: 1.81, 2.16), compared to 1.73 (95% CI: 1.62, 1.84) for female non-victims. Among males, there was also a statistically significant association between violence victimization and smoking cigarettes (Risk Difference [RD] = −0.05, 95% CI: −0.09, −0.01) and not using condoms (RD = −0.10, 95% CI: −0.19, −0.02). Among females, there was a statistically significant association between violence victimization and history of STI (RD =−0.07, 95% CI: −0.13, −0.02). For both females and males, there was a statistically significant association between experiences of violence victimization and moderate or severe mental distress (RD=−0.08, 95% CI: −0.13, −0.02 and RD=−0.11, 95% CI: −0.18, −0.05, respectively). A similar pattern was also found for both females and males with regard to suicidal ideation (RD=−0.19, 95% CI: −0.25, −0.12 and RD=−0.07, 95% CI: −0.10, −0.04, respectively).

5. Discussion

This study examined violence victimization and negative health correlates of youth exposed to the 2010 Haiti earthquake. Overall, violence and negative health correlates were prevalent approximately 1.5 years after the earthquake. Further, youth who were exposed to violence reported poorer health.

The earthquake-exposed youth in this study reported high levels of violence victimization. Nearly 50% of females and 41.68% of males experienced violence in the previous 12 months. Although it is difficult to make direct pre-disaster comparisons with our data, some studies provide helpful pre-disaster information. For example, Gage & Suzuki (2006) evaluated data from the 2000 Haiti Enquête Mortlité, Morbidité et Utilization des Services cross-sectional survey. In their sample of emerging adult men (those aged 20 – 24 in their study) in Haiti, parental violence was witnessed by 7% of those who abstained from alcohol use, 39% of men who experimented with alcohol, and 11% of those who were regular users. As another pre-disaster comparison, Gómez et al., 2009 surveyed 357 youth (ages 15 – 24 years) in Haiti. Lifetime sexual violence exposure in that sample was reported by 18% of the sample.

As a post-disaster comparison, past-year violence victimization was lower among our participants than was found in two post-earthquake studies that reported prevalence rates of 64% and 75% among Haitian females 1–2 years post-quake (Campbell et al., 2016; Sloand et al., 2017). This discrepancy may be due to underlying differences in study populations (e.g., ages 12–17 years only [Sloand et al., 2017], inclusion of women ≥24 years [Campbell et al., 2016]) and recruitment from higher risk groups (e.g., internally displaced populations recruited from hospitals and clinics). Published prevalence of post-earthquake physical violence experiences vary, ranging from 10 to 22% in the current national study to 17–62% in other investigations (Campbell et al., 2016; Cénat and Derivois, 2015; Flynn-O'Brien et al., 2016; Sloand et al., 2017). Our findings support results from other sexual violence studies estimating that 14–22% of displaced persons became victims of sexual abuse following the earthquake (MADRE / International Women's Human Rights (IWHR) Clinic at CUNY School of Law et al., 2012; Satterthwaite and Opgenhaffen, 2011; Sloand et al.,

2017). The availability of comparable data on violence against children and youth in disaster and non-disaster settings remains limited, highlighting the importance of collecting more data on violence victimization before and after disasters.

Negative health correlates were prevalent in our disaster-exposed youth population. Nearly 40% of females reported not using condoms in the past year, aligning with other post-earthquake estimates (Dévieux et al., 2016; Logie et al., 2016; Severe et al., 2014). Studies of mental health and suicidal behaviors in Caribbean populations are lacking; suicidal ideation in disaster-exposed youth in the present study (26.8% of females, 8.0% of males) was considerably higher than Caribbean black youth living in the U.S. (14.4% of females, 1.5% of males) and cross-national adults (9.2%) (Nock et al., 2008; Sean et al., 2009). Previous research has shown a high prevalence of mental distress among Haitian youth following the earthquake (Cénat and Derivois, 2015; Derivois et al., 2014). Our findings were consistent with this: 77% of females and 66% of males reported moderate to severe mental distress. A 2012 study of adults in rural post-earthquake Haiti found 6.1% of adults had current suicidal ideation, and 41.7% had symptoms of moderate or severe depression (Wagenaar et al., 2012).

Youth exposed to the disaster who reported violence victimization were more likely to report negative health correlates, when compared to those who did not report violence victimization. For both females and males, this included higher prevalence of mental distress, suicidal ideation, and more sexual partners. This finding is supported by previously conducted research (Campbell et al., 2016; Centers for Disease Control and Prevention, 2014; Furr et al., 2010; Kronenberg et al., 2010; Resnick et al., 2017; Schumacher et al., 2010; Tang et al., 2018; Zuromski et al., 2019). A study of women displaced by the Haiti earthquake revealed that significantly more mental and physical health problems were reported by abused than non-abused women (Campbell et al., 2016). Zuromski and colleagues found that, of all the predictors they examined, prior exposure to intimate partner violence was most robustly related to post-disaster suicidality, PTSD, and depression in their study of 2000 U.S. adolescents following tornadoes (Furr et al., 2010; Zuromski et al., 2019).

6. Limitations

There are several limitations of this work. First, the survey is cross-sectional and causation cannot be inferred from this analysis. Second, the data are self-reported, introducing potential report bias. In order to minimize social desirability bias, interviews were conducted in a private setting. Third, the study did not contain direct questions about disaster exposure. Thus, the exposure stressors experienced by participants and the influence of additive stressors could not be assessed. Fourth, given the unique circumstances of the Haiti earthquake, the findings from this study may not be generalizable to other post-disaster settings. Further investigation of determinants of violence and negative health correlates in post-disaster settings is merited. Finally, this analysis is descriptive and bivariate, not controlling for potential confounding variables.

7. Conclusion

Findings from this work point to several applications to practice and opportunities for future research. Greater attention to the downstream sequelae of natural disasters could inform post-disaster response efforts to bolster resiliency among survivors. While immediate needs understandably take precedence following a disaster, strategies to prevent violence and negative health impacts can also result in longer-term support for survivors. Timeliness is of utmost importance, as it is optimal for high-risk populations to take part in interventions within one month of a disaster to maximize mental health outcomes (Foa et al., 1995; Sijbrandij et al., 2007; Substance Abuse and Mental Health Services Administration, 2016).

With regard to crisis counseling after disasters, services that include discussions of both mental and behavioral health services are needed. Information about risks identified by this study should be shared with providers to help prepare them for the potential needs of youth following a disaster. Organizations with the expertise and capacity to address family violence can also play a role in addressing post-disaster prevention and response (World Health Organization [WHO], 2005).

Future research focused on resilience and identification of protective factors against negative sequelae after disaster is warranted. This requires study designs that assess pre-disaster functioning, exposure to disasters, and post-disaster outcomes. Additionally, surveillance systems employed in response to disasters should include intentional injury data (World Health Organization [WHO], 2005) to identify areas of greatest need and the populations most vulnerable to violence. Finally, intervention research is needed on new or augmented preventive services to build a repertoire of evidence-based practices that can be implemented with youth and families following a natural disaster. Affordable and scalable practices are needed to ensure the broadest public health impact. While disasters are unavoidable, many of the sequelae of disasters are preventable.

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Table. 1

Prevalence of violence and negative health correlates of earthquake-exposed youth in Haiti, 2012.

	Females (n = 1457)		**Males (*n* = 1459)**	
	***n* (Weighted%)**	**95% CI**	***n* (Weighted%)**	**95% CI**
Violence outcomes (Past 12 months)				
Any violence victimization	681 (49.93)	45.54, 54.31	599 (41.68)	37.53, 45.82
Parent/Adult caregiver physical violence	324 (22.03)	18.11, 25.94	273 (18.49)	14.87, 22.11
Public authority figure physical violence	141 (10.20)	7.54, 12.87	163 (10.90)	8.10, 13.71
Emotional abuse	365 (27.80)	25.02, 30.57	236 (17.01)	14.42, 19.60
Sexual violence	297 (23.01)	19.19, 26.84	211 (15.98)	13.62, 18.35
Negative health correlates				
Was drunk[a]	61 (5.04)	3.24, 6.84	158 (11.68)	8.68, 14.67
Smoked cigarettes[a]	7 (0.75)	0.18, 1.32	66 (5.81)	3.89, 7.74
Didn't use condoms[b]	251 (38.92)	33.94, 43.90	130 (20.27)	15.08, 25.47
Total number of past sexual partners[c]	1.87[c]	1.77, 1.96	3.83[c]	3.40, 4.25
Ever had an STI	348 (24.38)	21.31, 27.44	133 (9.47)	7.27, 11.68
Moderate or severe mental distress[a]	1068 (76.56)	72.78, 80.34	948 (66.41)	61.80, 71.01
Ever thought about ending his/her life	368 (26.79)	23.16, 30.42	132 (8.05)	6.18, 9.91

Notes. CI = confidence interval; CIs are for the weighted percentages; data are from the Haiti Violence Against Children Survey (VACS).

[a]Last 30 days.

[b]Last 12 months.

[c]Mean reported; results reported for those who reported ever having sex and responded to question about number of partners (*n* = 727 females and *n* = 687 males).

Table. 2

Prevalence of negative health correlates of earthquake-exposed youth in Haiti, by violence victimization status.

	Females (*n* = 1457)			**Males (*n* = 1459)**		
	No violent victimization (*n* = 776)	**Any violent victimization (*n* = 681)**	**Risk difference (95% CI)**	**No violent victimization (*n* = 860)**	**Any violent victimization (*n* = 599)**	**Risk difference (95% CI)**
	(weighted% [95% CI])	**(weighted% [95% CI])**		**(weighted% [95% CI])**	**(weighted% [95% CI])**	
Was drunk[a]	28 (4.93 [2.67, 7.18])	33 (5.15 [2.74, 7.56])	−0.002 (−0.03, 0.03)	86 (10.82 [7.40, 14.24])	72 (12.88 [8.27, 17.49])	−0.02 (−0.07, 0.03)
Smoked cigarettes[a]	3 (0.83 [0.00, 1.77])	4 (0.66 [0.00, 1.39])	.002 (−0.01, 0.01)	**30 (3.78 [1.99, 5.58])**	**36 (8.65 [4.89, 12.40])**	**−0.05 (−0.09, −0.01)**
Didn't use condoms[b]	133 (41.98 [35.28, 48.67])	118 (36.43 [30.41, 42.45])	.06 (−0.02, 0.13)	**62 (15.63 [10.36, 20.91])**	**68 (26.02 [18.02, 34.03])**	**−0.10 (−0.19, −0.02)***
Total number of past sexual partners[c]	**1.73[c] (1.62, 1.84)**	**1.99[c] (1.81, 2.16)**	**0.25 (0.03, 0.47)*[d]**	**3.40[c] (3.06, 3.74)**	**4.33[c] (3.50, 5.16)**	**0.93 (0.07, 1.78)*[d]**
Ever had an STI	**168 (20.71 [16.59, 24.84])**	**180 (28.04 [23.80, 32.28])**	**−0.07**	57 (7.97 [5.39, 10.55])	76 (11.59 [7.49, 15.70])	−0.04 (−0.09, 0.01)
Moderate or severe mental distress[a]	**554 (72.80 [67.63, 77.98])**	**514 (80.39 [76.15, 84.63])**	**−0.08 (−0.13, −0.02)***	**516 (61.70 [57.00, 66.41])**	**432 (72.95 [66.11, 79.80])**	**−0.11 (−0.18, −0.05)***
Ever thought about ending his/her life	**130 (17.53 [13.52, 21.53])**	**238 (36.09 [30.73, 41.45])**	**−0.19 (−0.25, −0.12)***	**52 (5.20 [3.49, 6.92])**	**80 (12.02 [8.68, 15.35])**	**−0.07 (−0.10, −0.04)***

Notes. Victimization refers to physical, emotional, or sexual violence occurring in the last 12 months; CI=confidence interval; Rao-Scott chi-square test used to assess group differences (no victimization compared with any victimization); statistically significant differences (chi-square $p < .05$) are in bold and marked with an asterisk; data are from the Haiti Violence Against Children Survey (VACS).

[a] Last 30 days.

[b] Last 12 months.

[c] Mean (95% CI) results reported and differences analyzed by *t*-test; results calculated for those who reported ever having sex and responded to question about number of partners ($n = 727$ females and $n = 687$ males).

[d] Mean difference (95% CI).